

## APPLICATION REQUIREMENTS FOR AN ANTRIM TWIN WELL

Information and supplemental information required when submitting a permit application for an Antrim shale formation "twin" well in accordance with Supervisor of Wells Order No. (A) 24-8-05. Note: Expansion of the footprint of the existing well pad is to be avoided if possible. As stated in Order (A) 24-8-05, an Antrim twin well must be located between 25 and 75 feet from the existing well with exceptions considered only for special circumstances such as proximity of surface equipment.

- 1) Include the word "Twin" in the well name, (like State Elmer Unit Twin #B3-21).
- 2) In addition to the usual requirements, the surveyor's supplemental plat should show the twin well's location on the existing well pad and its distance from the existing well and production equipment.

Attach a separate page(s) to the twin well permit application addressing items 3-11

- 3) Describe the drilling unit of the existing well and the proposed drilling unit for the twin well. (If the existing well drilling unit is 80 acres, then the twin's unit shall be the same unit.) Was the drilling unit for the existing well formed through compulsory pooling? If yes, give the Supervisor of Wells order number. Does the twin well unit require compulsory pooling?
- 4) Describe the completion zone in the existing well and the proposed twin. (example: existing well is Lachine/Norwood 978'-1012' and twin will be Sunbury/Ellsworth 812'-844')
- 5) Describe the pressure in the existing completion zone and the expected pressure in the completion zone of the proposed twin well.
- Regulations require a well's surface casing be set a minimum of 100' below the base of the glacial drift and 100' below all fresh water strata. They also require that no zone within 50' of the surface casing's bottom be fractured. Report the "amount of cover" for the proposed completion (base of drift to expected uppermost producing zone perforation). If less than 150 feet, describe proposed completion stimulation plans.
- 7) Describe your consolidation plan for twin well drilling pits and alternatives.
- 8) Include the pit plot for the existing well (EQP 7200-9).
- 9) If there is a need to expand the footprint, submit documentation describing any planned well pad modifications and justification for the expansion.
- 10) If the original wells were on 40 acre units and development of multiple twin wells are planned, submit a plan of development for the area showing the unit configurations.
- 11) Submit a revised Antrim EIA (EQP 7200-21) & project map showing the planned twin wells. Describe any necessary changes to the pipeline network or other equipment.

For additional questions, contact the Office of Geological Survey Permits & Bonding Unit at (517) 241-1528.